AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A power amplifier pre-distorter formed by a discrete-time filter structure with filter taps, ~~characterized in that~~ wherein said filter structure includes:

an individual look-up table ~~(LUT0, LUT1, LUT2; LUT01, LUT11, LUT21)~~ for each filter tap, each look-up table representing a sampled polynomial in a variable representing signal amplitude; ~~and~~

means ~~(10)~~ for selecting, from each filter tap look-up table[[,]] a filter coefficient that depends on the amplitude of a corresponding complex signal value to be multiplied by the filter tap; and

means for compensating for changes in at least one predetermined parameter,

wherein said parameter represents amplifier temperature.

2. (Currently Amended) The pre-distorter of claim 1, ~~characterized in that~~ wherein the discrete-time filter structure comprises a FIR filter structure.

3. (Currently Amended) The pre-distorter of claim 1, ~~characterized in that~~ wherein the discrete-time filter structure comprises an IIR filter structure.

4. (Currently Amended) The pre-distorter of claim 1, ~~characterized in that~~ wherein the discrete-time filter structure comprises a combination of a FIR filter structure and an IIR filter structure.

5. Canceled.

6. (Currently Amended) The pre-distorter of claim ~~5~~1, ~~characterized in that~~ wherein said parameter also represents average pre-distorter input signal power.

7. Canceled.

8. (Currently Amended) The pre-distorter of claim ~~5~~1, ~~characterized in that~~ wherein said parameter also represents power amplifier transistor bias.

9. (Currently Amended) The pre-distorter of claim ~~5~~1, ~~characterized by~~ wherein the means for selecting is arranged to select, from each filter tap look-up table, a filter coefficient that depends on the instantaneous signal power of a corresponding complex signal value to be multiplied by the filter tap.

10. (Currently Amended) A base station including a power amplifier pre-distorter formed by a discrete-time filter structure with filter taps, ~~characterized in that~~ wherein said filter structure includes

an individual look-up table ~~(LUT0, LUT1, LUT2; LUT01, LUT11, LUT21)~~ for each filter tap, each look-up table representing a sampled polynomial in a variable representing signal amplitude; ~~and~~

~~means (10) for selecting~~selection circuitry arranged to select, from each filter tap look-up table, a filter coefficient that depends on the amplitude of a corresponding complex signal value to be multiplied by the filter tap; and

compensation circuitry arranged to compensate for changes in at least one predetermined parameter,

wherein said parameter represents amplifier temperature..

11. (Currently Amended) The base station of claim 10, ~~characterized in that~~ wherein the discrete-time filter structure comprises a FIR filter structure.

12. (Currently Amended) The base station of claim 10, ~~characterized in that~~ wherein the discrete-time filter structure comprises an IIR filter structure.

13. (Currently Amended) The base station of claim 10, ~~characterized in that~~ wherein the discrete-time filter structure comprises a combination of a FIR filter structure and an IIR filter structure.

14. Canceled.

15. (Currently Amended) The base station of claim ~~14~~10, ~~characterized in that~~ wherein said parameter also represents average pre-distorter input signal power.

16. Canceled.

17. (Currently Amended) The base station of claim ~~1~~410, ~~characterized in that~~ wherein said parameter also represents power amplifier transistor bias.

18. (Currently Amended) The base station of claim 10, ~~characterized by means for selecting~~wherein the selection circuitry is arranged to select, from each filter tap look-up table, a filter coefficient that depends on the instantaneous signal power of a corresponding complex signal value to be multiplied by the filter tap.

19. (New) The pre-distorter of claim 1, wherein pre-distortion (PD(n,z)) for the power amplifier stored in the individual look-up tables is approximated as:

$$PD(n,z) = \sum_{q=0}^{Q} x(n-q)\left[\sum_{m=0}^{M-1} T_{qm}\left(\left|x(n-q)\right|\right) z^{m}\right]$$

where z is the predetermined parameter, q represents time, x(n) is an input signal sample, $T_{qm}(|x(n-q)|)$ is a series of polynomials in the absolute value of the complex variable $x(n-q)$, and M is a number of polynomial terms in the series.

20. (New) The base station of claim 10, wherein pre-distortion (PD(n,z)) for the power amplifier stored in the individual look-up tables is approximated as:

$$PD(n,z) = \sum_{q=0}^{Q} x(n-q)\left[\sum_{m=0}^{M-1} T_{qm}\left(\left|x(n-q)\right|\right) z^{m}\right]$$

where z is the predetermined parameter, q represents time, x(n) is an input signal sample, $T_{qm}(|x(n-q)|)$ is a series of polynomials in the absolute value of the complex variable $x(n-q)$, and M is a number of polynomial terms in the series.

21. (New) A method for pre-distorting a signal to be input to a power amplifier using a pre-distorter formed by a discrete-time filter structure with filter taps, comprising:

providing a look-up table for each filter tap that represents a sampled polynomial in a variable representing signal amplitude;

selecting from each filter tap look-up table a filter coefficient that depends on the amplitude of a corresponding complex signal value to be multiplied by the filter tap;

compensating for changes in at least one predetermined parameter,

wherein said parameter represents amplifier temperature.

22. (New) The method of claim 21, wherein said parameter also represents average pre-distorter input signal power.

23. (New) The method of claim 21, wherein said parameter also represents power amplifier transistor bias.

24. (New) The method of claim 21, wherein a filter coefficient from each filter tap look-up table is selected that depends on the instantaneous signal power of a corresponding complex signal value to be multiplied by the filter tap.

25. (New) The method of claim 21, wherein pre-distortion (PD(n,z)) for the power amplifier stored in the individual look-up tables is approximated as:

$$PD(n,z) = \sum_{q=0}^{Q} x(n-q)\left[\sum_{m=0}^{M-1} T_{qm}\left(\left|x(n-q)\right|\right) z^{m}\right]$$

where z is the predetermined parameter, q represents time, x(n) is an input signal sample, $T_{qm}(|x(n-q)|)$ is a series of polynomials in the absolute value of the complex variable $x(n-q)$, and M is a number of polynomial terms in the series.